

**NEW YORK STATE BOARD ON ELECTRIC GENERATION  
SITING AND THE ENVIRONMENT**

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In the Matter of the Application of

Case No.: 16-F-0205

for a Certificate of Environmental Compatibility  
and Public Need Pursuant to Article 10 to  
Construct a Wind Energy Project.

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**DIRECT TESTIMONY OF  
THEODORE N. LOUKIDES AND LINDA COLLART**

Division of Mineral Resources  
New York State Department of Environmental Conservation

July 12, 2019

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**WITNESS INTRODUCTION**

**Q. Will the witness please state his name, employer, title and business address?**

A. My name is Theodore N. Loukides. I have been employed by the Department of Environmental Conservation (Department or NYSDEC) in the Division of Mineral Resources for approximately 17 years and I have served in the Bureau of Resource Development and Reclamation as the Chief of the Oil and Gas Compliance and Enforcement Section for approximately 7 years. I currently work in the DEC’s Central Office, Albany, New York.

**Q. Will the first witness please describe his educational background and professional certifications?**

A. Please see a copy of my resume, attached hereto as NYSDEC-LC-1.

**Q. Will the second witness please state her name, employer, title and business address?**

A. My name is Linda Collart. I have been employed by the Department in the Division of Mineral Resources for more than 21 years and have been in my current position as the Regional Mineral Resources Supervisor for almost 16 years. Previously, I worked for more than 4 years as a Mined Land Reclamation Specialist 1 in the Region 8 Mined Land Reclamation Program. I currently work in the NYSDEC’s Region 8 Office in Avon, New York.

**Q. Will the second witness please describe her educational background and professional certifications?**

1 A. Please see a copy of my resume, attached hereto as NYSDEC-LC-2.

2 **Q. What are your collective responsibilities at the Department?**

3 A. As Mineral Resources Specialists, we regulate the development, production and  
4 utilization of oil and gas in the State in a manner as will prevent waste, provide for a greater  
5 ultimate recovery of oil and gas. Similarly, we regulate underground gas storage wells,  
6 solution salt mining wells, and stratigraphic and geothermal wells drilled deeper than 500  
7 feet. We also regulate how wells are drilled and plugged to prevent pollution and migration  
8 of fluids in the subsurface.

9 **Q. Mr. Loukides, what is your experience regarding oil and gas infrastructure?**

10 A. As Chief of the Oil and Gas Compliance and Enforcement Section, I supervise six  
11 professionals and technical staff. I oversee the Department's programs pertaining to the  
12 filing and maintenance of administrative documentation for oil, gas and solution mining  
13 activities within the state. I also oversee the Department's orphaned well program, which  
14 incorporates a multi-layered approach to locating, verifying, and scoring wells that were  
15 abandoned by their original/former owners or operators without being plugged. My  
16 industry experience includes petroleum exploration in the south-central and midwestern  
17 U.S. and geophysical prospecting in the Rocky Mountains.

18 **Q. Mr. Loukides, what is your experience regarding oil and gas compliance and**  
19 **review of proposed wind energy projects?**

20 A. I review proposed wind energy projects, including projects proposed pursuant to  
21 Article 10 of the Public Service Law (Article 10), for potential impacts to existing oil and

1 gas infrastructure. While the review of proposed wind energy projects is relatively new to  
2 our regulatory program, my experience regarding oil and gas compliance and review of  
3 proposed wind energy projects parallels my experience reviewing a wide variety of State  
4 Environmental Quality Review Act (SEQRA) issues as they pertain to oil and gas  
5 infrastructure.

6 As a professionally-trained geologist, my knowledge and understanding of both the  
7 geologic framework and the anthropogenically-derived elements (roads, buildings, dams,  
8 landfills) that mantle the geologic framework forms the basis of my review and analysis. I  
9 draw from my long and varied professional background, which includes oil and gas  
10 exploration, geophysical prospecting, hydrogeologic consulting, and construction  
11 management. Further, my section has been tasked with researching technologies that are  
12 being developed and have been implemented for use in locating orphaned oil and gas wells.  
13 Toward that end, we have collaborated on several projects with researchers flying over  
14 areas with plugged and unplugged oil and gas wells using unmanned aerial system (UAS  
15 or drones) equipped with alkali-earth (primarily cesium and rubidium) vapor  
16 magnetometers. In addition, my staff and I participate in monthly roundtable discussions  
17 with UAS researchers and developers around the country.

18 **Q. Ms. Collart, what is your experience regarding oil and gas infrastructure?**

19 **A.** As Regional Mineral Resources Supervisor, I am responsible for overseeing the  
20 Department's regulation of oil, gas and other types of regulated wells in Regions 6, 7, and  
21 8 overseeing five professional and technical staff members. Specific responsibilities

1 include well permit processing, record keeping, assignment and oversight of field work,  
2 and enforcement of regulatory requirements. Staff performs well drilling and plugging  
3 inspections, compliance inspections associated with existing wells, complaint  
4 investigations, and inspections to look for orphaned/abandoned wells. Through our field  
5 experience, my staff and I are very familiar with oil and gas wells including how they are  
6 constructed in the subsurface as well as ancillary production equipment at the surface. As  
7 a geologist, I have knowledge of the subsurface formations and oil and gas reservoirs in  
8 the State and principles related to subsurface fluid migration. I represent the Division of  
9 Mineral Resources when interacting with cooperating agencies, industry representatives,  
10 the public, and other NYSDEC programs in the region. I also have 9 years of experience  
11 as a petroleum exploration geologist and field operations supervisor for independent oil  
12 and gas producers in Ohio and New York.

13 **Q. Ms. Collart, what is your experience regarding oil and gas compliance and**  
14 **review of proposed wind energy projects?**

15 A. I am responsible for compliance associated with oil and gas wells in NYSDEC  
16 Regions 6, 7, and 8 and have had this responsibility since working in my current position  
17 as Regional Mineral Resources Supervisor. Wind energy projects have only recently been  
18 proposed in areas where there has been considerable gas and oil well drilling and active,  
19 inactive and abandoned wells are prevalent. My review of proposed wind energy projects  
20 with respect to impacts to existing oil and gas infrastructure is very similar to my  
21 experience reviewing for projects where potential impacts to the environment as the result

1 of subsurface construction activity are assessed. Any project, including a wind energy  
2 project, proposed to be sited in an area containing existing oil and gas infrastructure, risks  
3 potentially encountering or disturbing unknown subsurface oil and gas infrastructure. With  
4 any type of well permitting, my office is responsible for reviewing projects and assessing  
5 the potential for environmental impacts associated with drilling, constructing, and plugging  
6 wells.

7 **Q. What is the purpose of your testimony today?**

8 A. The purpose of our testimony is to provide an overview of the Department's oil and  
9 gas regulatory program, and the State statutes, regulations, and guidance regarding oil and  
10 gas infrastructure that should be applied when evaluating the impacts of wind energy  
11 projects on such infrastructure. Our testimony will provide background regarding the oil  
12 and gas wells and associated infrastructure in the Project area and a discussion of the  
13 potential effects of impacting such infrastructure during Project construction.

14 **Q. What information has provided the basis for your testimony?**

15 A. Our testimony is based on the Project application - specifically Exhibit 21 and  
16 supporting Appendices - submitted by Canisteo Wind, LLC (Applicant) on November 2,  
17 2018, together with Exhibit 21 related supplemental filings filed on January 28, 2019 and  
18 May 24, 2019, (collectively, the Application). We have reviewed all the above-referenced  
19 materials in the context of ensuring the Application and Project adequately address oil and  
20 gas infrastructure.

21 **OIL AND GAS INFRASTRUCTURE**

1     **Q.     Please provide a general description of oil and gas infrastructure in New York**  
2           **State.**

3     A.     Based on historic industry and academic publications, and supplemented by  
4     anecdotal information, the Department believes that over 75,000 wells have been drilled in  
5     the State since the first gas well was drilled in Fredonia in 1821 and the first oil well was  
6     drilled in Limestone in 1865. The Department's database currently contains some 42,000  
7     well records; therefore, there are likely tens of thousands of undocumented wells whose  
8     location and condition are unknown. Many of these wells were drilled prior to the existence  
9     of a regulatory agency in the State. Orphaned oil and gas wells exist in all states where oil  
10    and/or gas exploration and development has occurred. They are legacies of our historical  
11    energy production, and they present a range of environmental concerns that has been  
12    exacerbated by society's expansion into areas where these wells exist.

13    **Q.     What records does the Department keep regarding the locations of oil and gas**  
14    **infrastructure in New York State?**

15    A.     As stated earlier, the Department's database currently contains some 42,000 well  
16    records. These records are based on historic industry and academic publications,  
17    supplemented by anecdotal information and, of course, the records created and maintained  
18    by the Department since the inception of the state's oil and gas regulatory program in 1963.

19    **Q.     Why are the Department records not adequate to identify all oil and gas**  
20    **infrastructure?**

1 A. The Department's records of oil and gas infrastructure do not adequately identify  
2 all oil and gas infrastructure in the state because many thousands of wells and associated  
3 infrastructure were emplaced long before the existence of a regulatory framework in New  
4 York State.

5 **Q. Approximately how much oil and gas infrastructure could be in this Project**  
6 **area?**

7 A. Oil and gas infrastructure onsite could include wells, meters, tanks (petroleum bulk  
8 storage, and brine), pump jacks, rods, tubing, separators and drips, pipelines (gathering,  
9 distribution, transmission), well pads, compressor stations, and gas storage. There could be  
10 as many as 250 wells of varying type and status within the Project area, and this would  
11 include wells characterized as active, inactive, plugged, unplugged, and orphaned or  
12 abandoned.

13 **Q. What does an abandoned well mean?**

14 A. Abandoned wells are unplugged wells (primarily oil or gas wells) that have not  
15 been operated and maintained in accordance with prevailing statute and regulation. Many  
16 abandoned wells have fallen into advanced states of disrepair.

17 **Q. What does an orphaned well mean?**

18 A. Orphaned wells are a subset of abandoned wells. They are abandoned wells for  
19 which no owner can be determined. In most instances, these wells were drilled prior to the  
20 existence of a regulatory framework in New York.

21 **Q. Why do orphaned and abandoned wells need to be plugged?**

1 A. Due to their advanced age and the lack of comprehensive well information, these  
2 wells may present significant public safety and environmental hazards. Unplugged  
3 orphaned and abandoned wells can also provide a potential route for subsurface methane  
4 to escape into the atmosphere, thereby increasing levels of greenhouse gases and  
5 contributing to climate change. To address these threats, these wells must be plugged.

6 **Q. How are wells plugged, generally?**

7 A. Well plugging involves the mobilization of a drilling or service rig to a well  
8 location, followed by the establishment of a stable working platform for labor and  
9 materials. The plugging process is initiated by the placement of cement at discrete depth  
10 intervals in a wellbore to seal off hydrocarbon-bearing zones and prevent the pollution of  
11 aquifers and surface waters. If left unplugged, orphaned and abandoned wells can provide  
12 unimpeded conduits for oil, gas, and other fluids to migrate between different geologic  
13 formations, into aquifers, and/or to the land surface.

14 **Q. Are there regulations or guidance regarding the plugging of wells?**

15 A. Yes. 6 NYCRR § 555.5 governs well plugging and further guidance is provided in  
16 the Generic Environmental Impact Statement on the Oil, Gas and Solution Mining  
17 Regulatory Program finalized in 1992.

18 **Q. Why is it important to maintain setbacks to oil and gas infrastructure?**

19 A. Access needs to be maintained to wells that are not properly plugged or if it is  
20 unknown if they are plugged to bring a service rig and ancillary equipment such as pipe  
21 tubs or racks, water trucks, cement trucks, and other tanks to contain fluids. Not only is a

1 setback necessary but there must be sufficient access from a roadway to the well to bring  
2 in and set up the equipment. For active gas or oil wells, setbacks and access must be  
3 maintained to allow a rig to set up on site to service or repair a well. For underground oil  
4 and gas lines, access must be maintained for maintenance and repair of the lines.

5 **Q. What are possible effects of impacting oil and gas infrastructure during**  
6 **Project construction?**

7 A. Damaging or destroying an oil or gas well or pipeline could potentially cause  
8 contamination of soils, surface water and/or groundwater through an uncontrolled release  
9 of crude oil, natural gas (primarily methane) and/or brine, thereby threatening public safety  
10 and the environment. Although methane is not toxic, its release could cause a fire or  
11 explosion hazard.

12 **Q. How should these effects be accounted for?**

13 A. Preliminary desktop review of available oil and gas well datasets, supplemented by  
14 field reconnaissance of the proposed project areas (preferably using aerial technology with  
15 magnetometers) would be the best initial approach. Plans, including well plugging, spill  
16 response and blasting, should be developed to ensure that any impacts to oil and gas wells,  
17 their associated infrastructure, and/or public safety and the environment are adequately  
18 addressed.

19 **PROPOSED CERTIFICATE CONDITIONS**

20 **Q. What would your recommended Proposed Certificate Conditions include with**  
21 **respect to impacts to oil and gas infrastructure?**

1 A. To ensure that the Project complies with the requirements of Environmental  
2 Conservation Law, including Article 23, implementing regulations, including 6 NYCRR  
3 Parts 550 – 559, and addresses oil and gas infrastructure, in any Article 10 Certificate  
4 ultimately issued for the Project, the Siting Board should include the proposed Certificate  
5 Conditions 131-136 as set forth in the document entitled “Canisteo Wind Energy LLC  
6 Proposed Certificate Conditions Revision 1” that was submitted and filed by the Applicant  
7 on July 10, 2019. Further, we support the Applicant filing a Blasting Monitoring Plan (see  
8 proposed Certificate Condition 56 and Package 17 of Attachment A in “Canisteo Wind  
9 Energy LLC Proposed Certificate Conditions Revision 1”), however, the Blasting  
10 Monitoring Plan should include acceptance and consultation by NYSDEC Staff.

11 **Q. Do you hold your opinions to a reasonable degree of scientific certainty?**

12 A. Yes, we do.

13 **Q. Does this conclude your direct testimony on these topics?**

14 A. Yes, it does.